

$$\frac{1}{B-A} \int f(x) dx$$

$$\frac{1}{60 - (-70)}$$

$$0.00769 \cdot 23501.8 = 180.78$$

$$y = 180.78$$

$$x = -26.885 \leftarrow \text{Found by tracing}$$

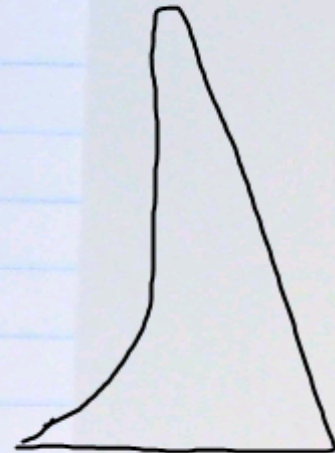
$$-26.88 - (-70) = 43.12$$

$$\text{radius} = 193.12$$

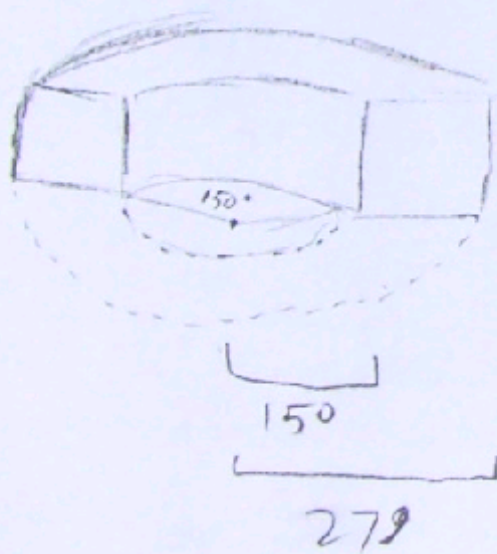
$$2\pi r \left( \frac{150}{360} \right) \cdot 23501.8 =$$

$$505.59 \cdot 23,501.8 =$$

$$11,882,204.03$$



$$\frac{\int_{-70}^{-16} (.03x^2 + 7.1x + 350)dx + \int_{-16}^0 389dx + \int_0^{59} (-6.593x + 389)dx}{59 - -70} \approx 182.192$$



$$(\pi 279^2 - \pi 150^2) \frac{150}{360} \cdot 182.192 \approx 13198182.05$$

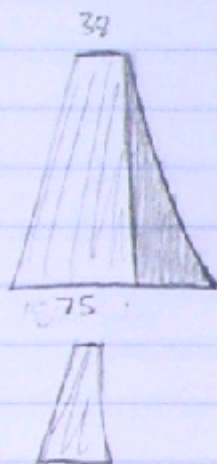


$$\boxed{5802.84} + \boxed{\text{Area}} = \boxed{23502.34 \text{ units}^2}$$

$$2\pi r \cdot \frac{150}{360}$$

$r = 150$

$$\frac{7050702\pi r}{360} \approx 9,229,347.336$$



$$2\pi r \cdot \frac{150}{360}$$

$$\frac{300\pi r}{360} \cdot 5802.84$$

$$V = \boxed{2278,769.939}$$

$$2\pi r \cdot \frac{204}{360}$$

$$\frac{408\pi r}{360}$$

$$\frac{83232\pi}{360}$$

$$\frac{(75+38)244}{2} = 13,786$$

$$V = \boxed{10,013,271.15}$$

$$\frac{(38+16)145}{2} = 3,915$$



② Take the integral of the area over the interval of the axis of rotation, and multiply this area by the degrees of rotation over 180.

$$\textcircled{3} \left( \int_{-150}^{150} 23,502.7235 dx \right) \cdot \frac{150}{180} = \boxed{5,875,680.875 \text{ ft}^3}$$

$$\int_{-70}^{-16} .03x^2 + 7.1x + 350 dx + \int_{-16}^0 389 dx + \int_0^{59} -6.593x + 389 dx = 182.192$$

59 - -70  
b - a

$$23,502.7235 \text{ ft}^2 \cdot \frac{1}{59+70} = 182.19$$

$$182.19 = r$$

$$[2\pi(279) - 2\pi(150)] \cdot$$

Turn in later

- Your initial work and estimate
- Your work from method 1
- Your work from method 2
- Your conclusion/reflection

HW Read over 7.1